

THAT WHICH IS CLAIMED:

1. A method of forming a coated printing paper product, comprising:
coating a printing paper product in a non-contact coating process, the printing
paper product having a top side and a back side; and
final calendering the printing paper product, following the non-contact coating
5 process, with a surface conditioning device comprising a heatable counter-
roll disposed adjacent to a tubular flexible jacket extending around a fixed
support element and having a load element disposed therebetween for
biasing the flexible jacket against the counter-roll, the flexible jacket
having opposed ends and being mounted to at least one end wall at each
end, the flexible jacket and the at least one end wall at each end being
rotatingly driven by a drive mechanism operably engaged therewith, the
coated printing paper product being directed between the flexible jacket
and the counter-roll so as to be calendered thereby such that the coated
printing paper product is formed for offset printing with a bulk of between
10 about 1.15 m³/kg and about 1.3 m³/kg, and with the top side of the coated
printing paper product having a PPS-s10 roughness of between about 0.7
μm and about 1.5 μm and a Hunter gloss of between about 30% and about
80%.

20 2. A method according to Claim 1, wherein coating the printing paper
product further comprises coating the top side at least once.

25 3. A method according to Claim 1, wherein coating the printing paper
product further comprises coating the back side at least once.

4. A method according to Claim 1, wherein coating the printing paper
product further comprises coating the printing paper product in a non-contacting coating
process such that the coated printing paper product has a basis weight of between about
30 g/m² and about 100 g/m².

5. A method according to Claim 1, wherein coating the printing paper product further comprises coating the printing paper product in a non-contacting coating process such that the coated printing paper product has a basis weight of between about 5 40 g/m² and about 70 g/m².

6. A method according to Claim 1, wherein final calendering the printing paper product further comprises final calendering the printing paper product such that the top side of the coated printing paper product has a Hunter gloss of between about 10 50% and about 70%.

7. A method according to Claim 1, wherein final calendering the printing paper product further comprises final calendering the printing paper product such that the 15 coated printing paper product has a density of between about 770 kg/m³ and about 870 kg/m³.

8. A method according to Claim 1 further comprising precalendering the printing paper product with a precalender before final calendering the printing paper product, the precalender being selected from the group consisting of at least one nip and a 20 soft calender.

9. A method according to Claim 8, wherein precalendering the printing paper product further comprises moistening at least one of the top side and the back side of the printing paper product.

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10. A method according to Claim 8, wherein precalendering the printing paper product further comprises precalendering the printing paper product without moistening either side thereof.

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11. A method of forming a coated paper product, comprising:

coating a paper product in a non-contact coating process such that the coated paper product has a basis weight of between about 30 g/m² and about 90 g/m², the paper product having a top side, a back side, and at least one fiber layer; and

5 final calendering the paper product, following the non-contact coating process, with a surface conditioning device comprising a heatable counter-roll disposed adjacent to a tubular flexible jacket extending around a fixed support element and having a load element disposed therebetween for biasing the flexible jacket against the counter-roll, the flexible jacket having opposed ends and being mounted to at least one end wall at each end, the flexible jacket and the at least one end wall at each end being rotatably driven by a drive mechanism operably engaged therewith, the coated paper product being directed between the flexible jacket and the counter-roll so as to be calendered thereby.

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